# INDEX OF SUBJECTS FOR VOLUME 23


Abortion
  *Campylobacter*-induced, in guinea pigs, 187
*Acinetobacter calcoaceticus*
  cell envelope protein profiles, 313
  classification methods, 313
Adenylcyclase stimulation
  *C. difficile* toxin B, 205
  enteropathogenic *E. coli*, 335
  heat-labile *E. coli* enterotoxin, 221
Adherence
  *C. albicans*, to vulvar epithelial cells, 75
  *F. necrophorum*, to bovine cells, 69
  *S. aureus*, to vulvar epithelial cells, 75
Adhesions, bacterial attachment to intestinal epithelium, 19
*Aeromonas*
  *A. caviae* enterotoxin, cross reactive with cholera toxin, 179
  *A. hydrophila* enterotoxin, cross reactive with cholera toxin, 179
  *A. sobria*, cytotonic enterotoxin, 179
  *A. sobria*, cytotoxic enterotoxin, 171
  *A. sobria*, enterotoxin cross reactive with cholera toxin, 171
  *A. sobria*, haemolytic activity of enterotoxin, 171
  *A. sobria*, monoclonal antibodies, 171
Agglutinin
  reactions of P- fimbriate *E. coli* strains, 247
Aminoglycoside modifying enzymes
  *S. aureus*, antibiotic resistance, 101
cAMP (intracellular), elevated by *Aeromonas* spp. enterotoxins, 179
Ampicillin
  *S. aureus* resistance, 133
  *S. faecalis* penicillin-binding proteins, 141
  *S. faecium* penicillin-binding proteins, 141
Anaerobes
  gram positive cocci, and bacteraemia, 61
  oral, black-pigmented, 55
  oral, effect of chewing sticks, 55
Anaerobic curved rods, characterisation, 279
Antibiotic-associated
  diarrhoea, 199
  pseudomembranous colitis, 199
Antibiotics and other antimicrobial substances
  ciprofloxacin, and *E. coli*, 83
  chewing stick extracts, and *Bacteroides* spp., 55
  morphological changes induced in *E. coli*, 83
  morphological changes induced in *L. pneumophila*, 149
  norfloxacin, and *E. coli*, 83
Antibiotic resistance
  ampicillin, and *S. aureus*, 133
  ampicillin, and streptococcal PBPs, 141
  cefathiamidine, and streptococcal PBPs, 141
  cephaloridine, and streptococcal, PBPs, 141
  cephazolin, and streptococcal PBPs, 141
  gentamicin, and *S. aureus*, 101
  kanamycin, and *S. aureus*, 101
  ß-lactams, and *S. faecalis*, 141
  ß-lactams, and *S. faecium*, 141
  methicillin, and *S. aureus*, 111
  multiresistance of *S. aureus*, 119
  penicillin G, and *S. aureus*, 133
  penicillin G, and streptococcal PBPs, 141
  tobramycin, and *S. aureus*, 101
Antibodies
  against *C. jejuni*, 339
  *S. aureus*, Western blot analysis, 95
  *see also* Monoclonal antibodies
Antigens
  *E. coli* and infectious neonatal diarrhoea, 19
  Lancefield group-H streptococci, 321
  O antigen of *Shigella flexneri*, 289
  *S. sanguis* serotype III, 321
Antiserum
  group-H streptococci, 321
API- Staph technique, 41
Arthritis, demonstration of spirochaetes, 261
Autoradiography
  PBPs of *S. faecalis*, 141
  PBPs of *S. faecium*, 141

Bacteraemia
  *Campylobacter* spp. in guinea pigs, 187
  *C. jejuni* in RITARD assay, 193
  virulence of anaerobic cocci, 61
  virulence of capsulate *Bacteroides* spp., 61
Bactericidal activity
  human sperm against *C. pyloridis*, 233
Bacteriocin typing
  *Morganella morgani*, 33
Bacteriophage
  in multiresistant *S. aureus*, 119
  *see also* Phage; Phage typing
*Bacteroides*
  *B. asaccharolyticus*, capsulate, and bacteraemia, 61
  *B. fragilis*, capsulate, and bacteraemia, 61
  black-pigmented, 55
  effect of extracts of chewing sticks, 55
Bannwarth's syndrome
  demonstration of spirochaetes, 261
Biken test
  heat-labile enterotoxin of *E. coli*, 221
Biotyping
  *S. faecalis*, 45
BOOKS RECEIVED
  Hospital infections (edited by J V Bennett and P S Brachman), 93
  Hybridoma technology. An annotated listing of papers 1975-1985 (Robin Nicholas), 192
  Introduction to sterilisation and disinfection (Joan F Gardner and Margaret M Peel), 94
  Microbes and human carcinogenesis (M J Hill), 192
  Pertussis (edited by C R Manclark and W Hennessen), 93
*Bordetella pertussis*
  pertussis toxin, 269
  reaction to membrane perturbant, 269
*Borrelia burgdorferi*
  in Lyme disease, 261
  modified silver stain, 261
Bovine ruminal epithelial cells
  adherence of *F. necrophorum*, 69
Buccal mucosa
  adherence of *C. albicans*, 75
  adherence of *S. aureus*, 75

*Campylobacter*
  *C. fetus* ss. *fetus*, virulence in guinea pigs, 187
  *C. jejuni*, cytotoxin pathogenicity, 193
  *C. jejuni*, immunisation of infant mice, 339
  *C. jejuni*, virulence in guinea pigs, 187

*Campylobacter contd.*
*C. pyloridis*, bactericidal, phagocytic and opsonic activity of human serum, 233
*Candida*
*C. albicans*, adherence to buccal and nasal mucosa, 75
*C. albicans*, adherence to vulvar epithelial cells, 75
*C. albicans*, biotypes in heroin abusers, 275
disseminated *Candida* infection syndrome, 275
infection in heroin abusers, 275
oxidase test, 359
Capsules
anaerobic cocci, and bacteraemia, 61
*Bacteroides* spp., and bacteraemia, 61
Cefathiamidine
PBPs of *S. faecalis*, 141
PBPs of *S. faecium*, 141
Cell-mediated immunity
against *S. enteritidis*, 239
Cell morphology
*L. pneumophila* and antibiotics, 149
*E. coli* and antibiotics, 83
Cell surface
antibiotic-induced changes in *L. pneumophila*, 149
Cell-surface proteins
*V. cholerae*, lipopolysaccharide conjugate, 9
Cephaloridine
PBPs of *S. faecalis*, 141
PBPs of *S. faecium*, 141
Cephazolin
PBPs of *S. faecalis*, 141
PBPs of *S. faecium*, 141
Characterisation
curved rods, 279
*Mobiluncus* spp. 279
*Streptobacillus moniliformis*, 303
Chewing sticks
effect of extracts on oral anaerobes, 55
Cholera toxin
cross reactive with *Aeromonas* spp. enterotoxin, 179
in *E. coli* enterotoxin assay, 221
non-reactive, with *A. sobria* cytotoxic enterotoxin, 171
Chromatography
affinity, 171, 179
fast-protein liquid, 279
gas-liquid, 155
Ciprofloxacin, and *E. coli*, 83
*Clostridium difficile*
in diarrhoeal disease, 199
in irritable bowel syndrome, 29
toxin A, 199, 205, 211
toxin action, 199, 205, 211
toxin B, 199, 205
Collagen
demonstration of spirochaetes, 261
Colonic loop
action of *C. difficile* toxin A, 211
Complement
opsonisation of *C. pyloridis*, 233
with *H. influenzae* monoclonal antibodies, 163
*Cryptococcus* spp., oxidase test, 359
Cytotonic enterotoxin
*Aeromonas* spp., 179
Cytotoxicity
*Aeromonas* spp. enterotoxins, 171, 179
Cytotoxins
*C. difficile* toxin B, 199, 205
*C. jejuni*, pathogenicity, 193
Delayed type hypersensitivity
*S. enteritidis*, 239
Dental hygiene, and chewing sticks, 55
Dental plaque
classification of *S. faecalis* isolates, 45
effect of extracts of chewing sticks, 55
Diarrhoea
antibiotic-associated, 199
*Campylobacter*-induced, 187
enteropathogenic *E. coli*, 247, 335
enterotoxigenic *E. coli*, 19, 221
infectious neonatal, 19
in RITARD assay of *C. jejuni*, 193
neonatal mouse model, 19
role of *Aeromonas* spp., 171, 179
role of *C. difficile*, 199
role of *C. jejuni*, 193, 339
DNA hybridisation, 119, 221
Dot enzyme immunoassay
monoclonal antibodies against *H. influenzae*, 163

Electronmicroscopy
antibiotic-induced morphological changes in *E. coli*, 83
antibiotic-induced morphological changes in *L. pneumophila*, 149
P-fimbrial antigens of *E. coli*, 247
pili on *Gardnerella vaginalis*, 327
*S. aureus* resistance plasmids, 101
ELISA
*Aeromonas* spp. enterotoxins, 171, 179
exotoxin of *Ps. pseudomallei*, 353
*H. influenzae* outer-membrane proteins, 163
heat labile enterotoxins of *E. coli*, 221
Enterobacteria
frequency distribution of plasmids, 255
Enterococci
group-D stereptococci, 45
Enterotoxins
*Aeromonas* spp., cross reactive with cholera toxin, 179
*C. difficile* toxin A, 199, 205, 211
*E. coli*, in diarrhoeal disease, 335
*E. coli*, heat-labile, 221
*E. coli*, and infectious neonatal diarrhoea, 19
purification and cytotoxicity of *A. sobria*, 171
Erythema chronicum migrans
demonstration of spirochaetes, 261
*Escherichia coli*
adenylcyclase stimulating factor assay, 335
antigenic heterogeneity of P fimbriae, 247
antigens, 19
diarrhoeal disease, 335
effect of ciprofloxacin, 83
effect of norfloxacin, 83
enteropathogenic, EPEC, 335
enterotoxigenic, ETEC, 19, 221
frequency distribution of plasmids, 255
heat-labile enterotoxin, 221
infectious neonatal diarrhoea, 19
morphological changes, antibiotic-induced, 83
Exotoxin
*Pseudomonas pseudomallei*, 353

Faecal flora
human carriage of *Yersinia* spp., 345
in irritable bowel syndrome, 29
*Morganella morgani*, 33

Fimbriate *E. coli* strains, 19
antigenic heterogeneity, 247
Fluid secretion
*C. difficile* toxin A-induced, 211
*C. jejuni*-induced, 193
*E. coli*-induced, 19
Food intolerance
in irritable bowel syndrome, 29
Fostering experiments
immunisation of mice against *C. jejuni*, 339
Frequency distribution of plasmids
in enterobacteria, 255
*Fusobacterium necrophorum*
adherence to bovine cells, 69
haemagglutinating properties, 69

*Gardnerella vaginalis*
effect of repeated subculture on pili, 327
Gastritis
isolation of *C. pyloridis*, 233
Gentamicin resistance
*S. aureus*, 101
Gingivitis, and periodontal disease, 55
Glucan
effect on *Leishmania major* infection, in mice, 363
Gnotobiotic mice
infectious neonatal diarrhoea, and *E. coli*, 19
Goblet cell assay
neuraminidase activity of *V. cholerae*, 227
Guinea pigs
virulence of *Campylobacter* spp., 187

Haemagglutination test
P-fimbriate *E. coli*, 247
Haemagglutinin
adherence of *F. necrophorum*, 69
Haemolytic assay
*Aeromonas* spp. enterotoxins, 171, 179
*Haemophilus*
*H. ducreyi*, lipopolysaccharide composition and virulence, 155
*H. influenzae*, serotype-specific outer-membrane protein, 163
*H. influenzae* type b, monoclonal antibody, 163
Haverhill fever
*Streptobacillus moniliformis*, 303
Heroin addicts
disseminated *Candida* infection syndrome, 275
Hospital infections
*Acinetobacter calcoaceticus*, 313
Hybridisation of DNA
bacteriophage in multiresistant *S. aureus*, 119
detection of heat-labile *E. coli* enterotoxin, 221

Ileal loops
action of *C. difficile* toxin A, 211
*Aeromonas* spp. enterotoxins, 171, 179
*E. coli*, heat-labile enterotoxin activity, 221
Ileal mucosa
effect of *C. difficile* toxins and toxin A, 199
Immune mechanisms
human serum against *C. pyloridis*, 233
Immunisation
mice, against *C. jejuni*, 339
mice, against *S. enteritidis*, 239
rabbits, with *V. cholerae* protein-polysaccharide conjugate, 9
Immunoblotting
monoclonal antibodies against outer-membrane proteins of *H. influenzae*, 163

Interferon
effect on immune response to *S. enteritidis*, 239
Intestinal epithelium
bacterial attachment, 19
enterotoxigenic strains of *E. coli*, 19
fluid secretion in acute diarrhoea, 19
Irritable bowel syndrome
faecal flora, 29
food intolerance, 29

Kanamycin resistance, *S. aureus*, 101

ß-Lactam antibiotics
PBPs of *S. faecalis*, 141
PBPs of *S. faecium*, 141
ß-Lactamase
effect on penicillin resistance, 133
extracellular, 133
penicillin-binding experiments, 133
production of *S. aureus*, 127, 133
susceptibility to lysozyme, 127
*Legionella pneumophila*
antibiotic-induced morphological changes, 149
cell-surface and spheroblast-like structures, 149
*Leishmania major*
effect of glucan on infection, 363
pathogenicity, 363
*Leptospira interrogans*
lipopolysaccharide antigens, 1
opsonic monoclonal antibodies, 1
Leptospirosis, 1
Lipopolysaccharide (LPS)
*H. ducreyi* and virulence, 155
leptospiral, and monoclonal antibodies, 1
O-antigenic side chain, 155
2-keto-3-deoxy-octulosonic acid, KDO, 155
with monoclonal antibodies against *H. influenzae*, 163
*V. cholerae*, cell-surface conjugate, 9
Lyme disease
demonstration of spirochaetes, 261
Lymphadenosis benigna cutis
demonstration of spirochaetes, 261
Lysogenic bacteriophage
*S. aureus*, 119
Lysozyme
susceptibility of *S. aureus*, 127

Macrophages
glucan-activated, against *L. major*, 363
phagocytosis of leptospires, 1
McCoy cells
effects of *C. difficile* toxins A and B, 205
Media
serum-free mycoplasma medium, 89
oxidase test in yeasts, 359
Melioidosis, and *Ps. pseudomallei*, 353
Membrane permeability
effects of *C. difficile* toxins A and B, 205
Membrane perturbing agent
effect on *Bordetella pertussis*, 269
Menstruation
microbial adherence to vulvar epithelial cells, 75
Methicillin resistance
*S. aureus*, 111
Mice
*A. sobria* enterotoxin activity, 171, 179
cell-mediated immunity against *S. enteritidis*, 239

Mice *contd.*
effect of glucan on *L. major* infection, 363
infant, immunisation against *C. jejuni*, 339
suckling mouse assay, pathogenicity of *C. jejuni*, 193
*Mobiluncus*
*M. curtisi*, characterisation, 279
*M. mulieris*, characterisation, 279
Modified Poisson distribution
frequency distribution of plasmids, 255
Monoclonal antibody
against outer-membrane proteins of *H. influenzae* type b, 163
against *Ps. pseudomallei*, 353
bactericidal properties, 163
*L. interrogans* lipopolysaccharide opsonisation, 1
purification of *A. sobria* enterotoxin, 171
Monosialoganglioside (GM1)
binding by heat-labile *E. coli* enterotoxin, 221
*Morganella morgani*
bacteriocin production and sensitivity, 33
typing scheme, 33
Morganocin
production and sensitivity, 33
Morphological changes, antibiotic-induced
*E. coli*, 83
*L. pneumophila*, 149
Mucinase complex of *V. cholerae*, 227
Mucosa
rabbit ileum, and *C. difficile* toxins, 199
Mycoplasmas
*M. fermentans*, culture viability, 89
*M. fermentans*, persistence in culture, 89
serum-free culture medium, 89
*Ureaplasma urealyticum*, culture viability, 89
*Ureaplasma urealyticum*, persistence in culture, 89

Nasal mucosa
adherence of *S. aureus*, 75
adherence of *C. albicans*, 75
Neonatal mouse model
infectious diarrhoea, enterotoxigenic *E. coli* strains, 19
Neuraminidase activity
*V. cholerae*, 227
Norfloxacin, effect on *E. coli*, 83

Oral bacteria
effect of chewing sticks on anaerobes, 55
*S. faecalis* isolates from dental plaque, 45
Oral hygiene, and chewing sticks. 55
Opsonisation
*C. pyloridis* by human serum, 233
*L. interrogans*, 1
Oxidase test in yeasts, 359

PAGE
purified cytotoxic enterotoxin of *A. sobria*, 171
staphylococcal whole-cell polypeptides, 41
*see also* SDS-PAGE
Penicillinase production
methicillin-resistant *S. aureus*, 111
Penicillin-binding
*S. aureus* and ß-lactamase production, 133
Penicillin G
PBPs of *S. faecalis*, 141
PBPs of *S. faecium*, 141
*S. aureus* resistance, 133
Periodontal disease
chewing stick exracts, 55
Pertussis toxin, 269
Phage, *V. cholerae*, 331
toxigenesis, phage-induced change, 331
Phage typing
multiresistant strains of *S. aureus*, 119
*S. faecalis*, 45
*Yersinia enterocolitica* O3, 349
Phagocytosis
*C. pyloridis* by polymorphonuclear neutrophils, 233
opsonised leptospires by macrophages, 1
Phenethyl alcohol
effect on synthesis of pertussis toxin, 269
Pili
*E. coli*, 19
*Gardnerella vaginalis*, 327
Plasmids
distribution, in enterobacteria, 255
distribution, in *E. coli*, 255
gentamicin resistance in *S. aureus*, 101
methicillin resistance in *S. aureus*, 111
penicillinase production, 111
Poly I: poly C
in immune response to *S. enteritidis*, 239
Polymorphonuclear neutrophils (PMN)
phagocytosis of *C. pyloridis*, 233
Prophage
multiresistant strains in *S. aureus*, 119
Protein profiles, SDS-PAGE
*A. calcoaceticus*, 313
*S. moniliformis*, 303
*Proteus morgani see Morganella morgani*
Pseudomembraneous colitis
antibiotic-associated, 199
*Pseudomonas pseudomallei*
detection of exotoxin, 353
Pyelonephritis
pathogenicity of *E. coli*, 247

Quinolones
effect on *E. coli*, 83

Rat-bite fever
*S. moniliformis*, 303
Restriction endonuclease digestion
bacteriophage in multiresistant *S. aureus*, 119
methicillin-resistant *S. aureus*, 111
*S. aureus* resistance plasmids, 101
RITARD assay
pathogenicity of *C. jejuni*, 193

*Saccharomyces* spp., oxidase test, 359
*Salmonella enteritidis*
cell-mediated immunity, in mice, 239
SDS-PAGE
*A. calcoaceticus*, 313
anaerobic curved rods, 279
*H. influenzae* outer-membrane proteins, 163
lipopolysaccharides of *H. ducreyi*, 155
*Mobiluncus* spp., 279
staphylococcal whole-cell polypeptides, 41
*S. moniliformis*, 303
*V. cholerae* protein-polysaccharide conjugate, 9
Serogroup
lysogenic bacteriophages in *S. aureus*, 119
Serology
*A. sobria* cytotonic enterotoxin, 179
*A. sobria* cytotoxic enterotoxin, 171

Serology *contd.*
cholera toxin, 171, 179
Lancefield group-H streptococci, 321
monoclonal antibodies against *H. influenzae*, 163
*S. sanguis* serotype III, 321
Western blot analysis of staphylococcal antibodies, 95
*Yersinia* spp. faecal isolates, 345
Serotyping
*S. faecalis*, 45
Serum
bactericidal, phagocytic and opsonic activity against *C. pyloridis*, 233
in mycoplasma culture medium, 89
susceptibility of *Campylobacter* spp., 187
*Shigella flexneri*
O antigens, structure and biology, 289
Sialic acid
neuraminidase activity of *V. cholerae*, 227
Silver stain (modified)
demonstration of spirochaetes, 261
Southern blotting
multiresistant strains of *S. aureus*, 119
Spheroplasts
antibiotic-induced in *L. pneumophila*, 149
Spirochaetes
in Lyme disease, 261
silver impregnation in modified silver stain, 261
Staphylococci
PAGE of whole-cell polypeptides, 41
*S. aureus* adherence to buccal and nasal mucosa, 75
*S. aureus* adherence to vulvar epithelial cells, 75
*S. aureus* bacteriophage, 119
*S. aureus* gentamicin resistance, 101
*S. aureus* ß-lactamase production, 127, 133
*S. aureus* methicillin resistant, MRSA, 111
*S. aureus* multiresistant strains, 119
*S. aureus* penicillinase production, 111
*S. aureus* penicillin resistance, 133
*S. aureus* plasmids, 101, 111
*S. aureus* susceptibility to lysozyme, 127
*S. aureus* transposon Tn*4001*, 101
*S. aureus* Western blot analysis of antibodies, 95
Statistical model
plasmid distribution in enterobacteria, 255
*Streptobacillus moniliformis*
characterisation, 303
Streptococci
enterococcal group-D, typing, 45
Lancefield group-H antigen, 321
*S. faecalis* biotyping, serotyping amd phage typing, 45
*S. faecalis* isolation from dental plaque, 45
*S. faecalis* penicillin-binding proteins (PBPs), 141
*S. faecalis* resistance to ß-lactam antibiotics, 141
*S. faecium* penicillin-binding proteins (PBPs), 141
*S. faecium* resistance to ß-lactam antibiotics, 141
*S. sanguis* serotype III antigen, 321

T cells
in immune response to *S. enteritidis*, 239
Teichoic acid
effect on *S. aureus* adherence, 75
Tobramycin resistance
*S. aureus*, 101
*Torulopsis* spp., oxidase test, 359
Toxigenesis
phage-induced change, 331
Toxins
cholera toxin, 171, 179, 221
*C. difficile*, 199
*C. difficile* toxin A, 199, 205, 211
*C. difficile* toxin B, 199, 205
*E. coli*, 335
pertussis, 269
*V. cholerae*, 331
*see also* Cytotoxins; Enterotoxins; Exotoxins
Transposon, Tn *4001*
gentamicin resistance in *S. aureus*, 101
Turbidimetric monitoring
*E. coli*, antibiotic response, 83
Typing scheme
for *Morganella morgani*, 33

*Ureaplasma urealyticum*
culture viability, 89
persistence in culture, 89
Using chambers
*C. difficile* toxins and ileal mucosa, 199

Vaginal flora
anaerobic curved rods, 279
*Gardnerella vaginalis*, 279
*Mobiluncus* spp., 279
Vaginosis, bacterial, 279, 327
Viable counting
antibiotic response in *E. coli*, 83
*Vibrio cholerae*
cell-surface protein-polysaccharide conjugate, 9
enzymic activities of mucinase complex, 227
neuraminidase activity, 227
toxigenesis. phage-induced change, 331
toxin production, 331
Vulvar epithelial cells
adherence of *S. aureus*, 75
adherence of *C. albicans*, 75

Western blot analysis
staphylococcal antibodies in human sera, 95
synthesis of pertussis toxin, 269

Yeasts
oxidase test, 359
*see also C. albicans*
*Yersinia* spp.
carriage rates in humans, 345
*Y. enterocolitica* faecal isolates, 345
*Y. enterocolitica* pathogenicity, 345
*Y. enterocolitica* O3, phage typing, 349
*Y. frededikseni* faecal isolates, 345

# INDEX OF AUTHORS FOR VOLUME 23


ABIMIKU ALASH'LE G, DOLBY JEAN M. The mechanism of protection of infant mice from intestinal colonisation with *Campylobacter jejuni*, 339

ADLER B, *see* FARRELLY *et al.*, 1

AKADA H, ASAKAWA H, KITAMURA K, OKAHASHI N, KOGA T, HAMADA S. Serological relationships between serotype-III *Streptococcus sanguis* and Lancefield group-H streptococci, 321

AL KHUWAITIR S A, *see* AL TUWAIJRI *et al.*, 363

ALLEN J C, *see* ISMAIL *et al.*, 353

AL MOFLEH I A, *see* AL TUWAIJRI *et al.*, 363

AL TUWAIJRI A S, MAHMOUD A A, AL MOFLEH I A, AL KHUWAITIR S A. Effect of glucan on *Leishmania major* infection in BALB/c mice, 363

ALY R, *see* BIBEL *et al.*, 75

ANDREWS S, *see* WILKINSON *et al.*, 119

ASAKAWA H, *see* AKADA *et al.*, 321

BAYLISS CATHERINE E, *see* BRADLEY *et al.*, 29

BEHNKE J, *see* TAYLOR-ROBINSON AND BEHNKE, 89

BELL J A, PENNINGTON T H, PETRIE DIANE T. Western blot analysis of staphylococcal antibodies present in human sera during health and disease, 95

BELMAAZA A, *see* HAMEL *et al.*, 163

BHATTACHARYYA F KATHLEEN, *see* SIDDIQUI AND BHATTACHARYYA, 331

BIBEL D J, ALY R, LAHTI L, SHINEFIELD H R, MAIBACH H I. Microbial adherence to vulvar epithelial cells, 75

BONFANTI C, *see* GELMI *et al.*, 111

BORRIELLO S P, *see* VETERE *et al.*, 279

BOSMA R B, *see* DE KONING *et al.*, 261

BOUSTOULLER YVONNE L, JOHNSON A P, TAYLOR-ROBINSON D. Pili on *Gardnerella vaginalis* studied by electronmicroscopy, 327

BRADLEY HAZEL K, WYATT G M, BAYLISS CATHERINE E, HUNTER J O. Instability in the faecal flora of a patient suffering from food-related irritable bowel syndrome, 29

BRANDIS H, *see* SMYTH *et al.*, 45

BRODEUR B R, *see* HAMEL *et al.*, 163

BROOK I. Bacteraemia and seeding of capsulate *Bacteroides* spp. and anaerobic cocci, 61

BRUNS W, KEPPELER H. Extracellular and membrane-bound ß-lactamase of *Staphylococcus aureus*: their importance for the expression of penicillin resistance, 133

BURDON D W, *see* MITCHELL *et al.*, 199, 205, 211

BURGESS MADELAINE R, *see* NEWSOME *et al.*, 19

BURGESS M N, *see* NEWSOME *et al.*, 19

BURKE VALERIE, *see* POTOMSKI *et al.*, 171, 179

BYRNE M E, *see* LYON *et al.*, 101

CANDY D C A, *see* MITCHELL *et al.*, 199, 205, 211

CARUSO A, *see* GELMI *et al.*, 111

CHAN E L, HARRIS R C, DALTON H P. The effect of antibiotics on the cell morphology of *Legionella pneumophila*, 149

CHANG W K, *see* PANG *et al.*, 193

CHARRUA M J, *see* NOBRE *et al.*, 359

CHEN H Y, WILLIAMS J D. Penicillin-binding proteins in *Streptococcus faecalis* and *S. faecium*, 141

CLINK J, PENNINGTON T H. Staphylococcal whole-cell polypeptide analysis: evaluation as a taxonomic and typing tool, 41

COID C R, O'SULLIVAN A M, DORÉ C J. Variations in the virulence, for pregnant guinea pigs, of *Campylobacters* isolated from man, 187

COLMAN G, *see* SMYTH *et al.*, 45

CONEY K A, *see* NEWSOME *et al.*, 19

COSTAS M, OWEN R J. Numerical analysis of electrophoretic protein patterns of *Streptobacillus moniliformis* strains from human, murine and avian infections, 303

COX N P, *see* VADIVELU *et al.*, 221

CRICHTON PAMELA B, *see* OLD *et al.*, 247

CUADRA J, *see* ODDS *et al.*, 275

DALTON H P, *see* CHAN *et al.*, 149

DEGENER J E, *see* DIJKSHOORN *et al.*, 313

DE KONING J, BOSMA R B, HOOGKAMP-KORSTANJE J A A. Demonstration of spirochaetes in patients with Lyme disease with a modified silver stain, 261

DIJKSHOORN L, MICHEL M F, DEGENER J E. Cell envelope protein profiles of *Acinetobacter calcoaceticus* strains isolated in hospitals, 313

DOLBY JEAN M, *see* ABIMIKU AND DOLBY, 339

DORÉ C J, *see* COID *et al.*, 187

DUNN D T, *see* VADIVELU *et al.*, 221

ELLIOTT T S J, SHELTON A, GREENWOOD D. The response of *Escherichia coli* to ciprofloxacin and norfloxacin, 83

FAINE S, *see* FARRELLY *et al.*, 1

FARRELLY H E, ADLER B, FAINE S. Opsonic monoclonal antibodies against lipopolysaccharide antigens of *Leptospira interrogans* serovar *hardjo*, 1

FEACHEM R G, *see* VADIVELU *et al.*, 221

FONTAINE E, *see* VETERE *et al.*, 279

FORESTI I, *see* GELMI *et al.*, 111

FREEMAN R, *see* LAW *et al.*, 335

FREER J H, *see* PERERA AND FREER, 269

FUMAROLA D, *see* POTOMSKI *et al.*, 179

GELMI M, FORESTI I, RAVIZZOLA G, BONFANTI C, VERARDI R, CARUSO A, TURANO A. Antibiotic resistances and plasmids in *Staphylococcus aureus* from Italian hospitals, 111

GEORGE ANNA, NAIR ROHINI, RATH S, GHOSH S N, KAMAT R S. Regulation of cell-mediated immunity in mice immunised with *Salmonella enteritidis*, 239

GHOSH S N, *see* GEORGE *et al.*, 239

GILLESPIE M T, *see* LYON *et al.*, 101

GODDARD M E, *see* NEWSOME *et al.*, 19

GOODWIN C S, *see* PRUUL *et al.*, 233

GRACEY M, *see* POTOMSKI *et al.*, 171

GREENWOOD D, *see* ELLIOTT *et al.*, 83

GREENWOOD MELODY, HOOPER W L. Human carriage of *Yersinia* spp., 345

HALPENNY M K, *see* SMYTH *et al.*, 45

HAMADA S, *see* AKADA *et al.*, 321

HAMEL JOSÉE, BRODEUR B R, LAROSE YOLANDE, TSANG PEGGY S, BELMAAZA A, MONTPLAISIR S. A monoclonal antibody directed against a serotype-specific, outer-membrane protein of *Haemophilus influenzae* type b, 163

HARRIS R C, *see* CHAN *et al.*, 149

HARRISON T J, *see* VADIVELU *et al.*, 221

HOOGKAMP-KORSTANJE J A A, *see* DE KONING *et al.*, 261

HOOPER W L, *see* GREENWOOD AND HOOPER, 345

HUNTER J O, *see* BRADLEY *et al.*, 29

ISMAIL G, NOOR EMBI M, OMAR O, ALLEN J C, SMITH C J. A competitive immunosorbent assay for detection of *Pseudomonas pseudomallei* exotoxin, 353
IWAKI I, *see* KANDE AND IWAKI, 69

JOHNSON A P, *see* BO' ,TOULLER *et al.*, 327

KABIR S. Preparation and immunogenicity of a bivalent cell-surface protein-polysaccharide conjugate of *Vibrio cholerae*, 9
KAMAT R S, *see* GEORGE *et al.*, 239
KANDE M, IWAKI K. Adherence of *Fusobacterium necrophorum* to bovine ruminal cells, 69
KAWADKA Y, MITANI T, OTSUKI K, TSUBOKURA M. Isolation and use of eight phages for typing *Yersinia enterocolitica* O3, 349
KEPPELER H, *see* BRUNS AND KEPPELER, 133
KETLEY J M, *see* MITCHELL *et al.*, 199, 205, 211
KITAMURA K, *see* AKADA *et al.*, 321
KOGA T, *see* AKADA *et al.*, 321

LAHTI L, *see* BIBEL *et al.*, 75
LAROSE YOLANDE, *see* HAMEL *et al.*, 163
LAW D, WILKIE K M, FREEMAN R. Examination of enteropathogenic *Escherichia coli* strains for an adenylcyclase stimulating factor, 335
LEE P C, *see* PRUUL *et al.*, 233
LLOYD B J, *see* VADIVELU *et al.*, 221
LYON B R, GILLESPIE M T, BYRNE M E, MAY J W, SKURRAY R A. Plasmid-mediated resistance to gentamicin in *Staphylococcus aureus*: the involvement of a transposon, 101

MAHMOUD A A, *see* AL TUWAIJRI *et al.*, 363
MAIBACH H I, *see* BIBEL *et al.*, 75
MATTHEWS HELEN, *see* SMYTH *et al.*, 45
MAY J W, *see* LYON *et al.*, 101
MCDONALD P J, *see* PRUUL *et al.*, 233
MICHEL M F, *see* DIJKSHOORN *et al.*, 313
MILLAR M. The susceptibility to lysozyme of ß-lactamase-producing and non-producing derivatives of *Staphylococcus aureus* strain 1030, 127
MIRAGLIOTTI G, *see* POTOMSKI *et al.*, 179
MITANI T, *see* KAWAOKA *et al.*, 349
MITCHELL T J, KETLEY J M, BURDON D W, CANDY D C A, STEPHEN J. Biological mode of action of *Clostridium difficile* toxin A: a novel enterotoxin, 211
MITCHELL T J, KETLEY J M, BURDON D W, CANDY D C A, STEPHEN J. The effects of *Clostridium difficile* crude toxins and purified toxin A on stripped rabbit ileal mucosa in Ussing chambers, 199
MITCHELL T J, KETLEY J M, BURDON D W, CANDY D C A, STEPHEN J. The effects of *Clostridium difficile* toxins A and B on membrane integrity and protein synthesis in intestinal cells *in vivo*, and *in vitro* and in McCoy cells *in vitro*, 205
MONTPLAISIR S, *see* HAMEL *et al.*, 163
MORRIS J A, *see* NEWSOME *et al.*, 19
MOSADOMI H A, *see* ROTIMI AND MOSADOMI, 55

NAIR ROHINI, *see* GEORGE *et al.*, 239
NEWSOME P M, BURGESS M N, BURGESS MADELAINE R, CONEY K A, GODDARD M E, MORRIS J A. A model of acute infectious neonatal diarrhoea, 19
NOBRE G N, CHARRUA M J, SILVA M M. The oxidase test in yeasts of medical importance, 359
NOOR EMBI M, *see* ISMAIL *et al.*, 353

ODDS F C, PALACIO-HERNANZ AMALIA, CUADRA J, SANCHEZ J. Disseminated *Candida* infection syndrome in heroin addicts—dominance of a single *Candida albicans* biotype, 275
ODUMERU J A, WISEMAN C M, RONALD A R. Relationship between lipopolysaccharide composition and virulence of *Haemophilus ducreyi*, 155
OKAHASHI N, *see* AKADA *et al.*, 321
OLD D C, YAKUBU D E, CRICHTON PAMELA B. Demonstration by immuno-electronmicroscopy of antigenic heterogeneity among P fimbriae strains of *Escherichia coli*, 247
OLLAR R A, STEWART-TULL D E S. Studies on the *Vibrio cholerae* mucinase complex. II. Specific neuraminidase activity measured histochemically in a goblet cell assay, 227
OMAR O, *see* ISMAIL *et al.*, 353
O'SULLIVAN A M, *see* COID *et al.*, 187
OTSUKI K, *see* KAWADKA *et al.*, 349
OWEN R J, *see* COSTAS AND OWEN, 303

PALACIO-HERNANZ AMALIA, *see* ODDS *et al.*, 275
PANG T, WONG P Y, PUTHUCHEARY S D, SIHOTANG K, CHANG W K. *In vitro* and *in vivo* studies of a cytotoxin from *Campylobacter jejuni*, 193
PENNINGTON T H, *see* BELL *et al.*, 95
PENNINGTON T H, *see* CLINK AND PENNINGTON, 41
PERERA V Y, FREER J H. Accumulation of a precursor subunit S1 of pertussis toxin in cell envelopes of *Bordetella pertussis* in response to the membrane perturbant phenethyl alcohol, 269
PETRIE DIANE T, *see* BELL *et al.*, 95
PLATT D J. A simple statistical approach that represents the frequency distribution of plasmids in clinical isolates of the enterobacteria, 255
POTOMSKI J, BURKE VALERIE, ROBINSON JENNIFER, FUMAROLA D, MIRAGLIOTTA G. *Aeromonas* cytotonic enterotoxin cross reactive with cholera toxin, 179
POTOMSKI J, BURKE VALERIE, WATSON I, GRACEY M. Purification of cytotoxic enterotoxin of *Aeromonas sobria* by use of monoclonal antibodies, 171
PRUUL H, LEE P C, GOODWIN C S, MCDONALD P J. Interaction of *Campylobacter pyloridis* with human immune defence mechanisms, 233
PUTHUCHEARY S D *see* PANG *et al.*, 193

RATH S, *see* GEORGE *et al.*, 239
RAVIZZOLA G, *see* GELMI *et al.*, 111
REED P J, *see* VETERE *et al.*, 279
ROBINSON JENNIFER, *see* POTOMSKI *et al.*, 179
ROMANOWSKA ELZBIETA, *see* SIMMONS AND ROMANOWSKA, 289
RONALD A R, *see* ODUMERU *et al.*, 155
ROTIMI V O, MOSADOMI H A. The effects of crude extracts of nine African chewing sticks on oral anaerobes, 55

SANCHEZ J, *see* ODDS *et al.*, 275
SENIOR B W. The typing of *Morganella morgani* by bacteriocin production and sensitivity, 33
SHELTON A, *see* ELLIOTT *et al.*, 83
SHINEFIELD S R, *see* BIBEL *et al.*, 75
SIDDIQUI K A I, BHATTACHARYYA F KATHLEEN. Phage-induced change of toxigenesis in *Vibrio cholerae*, 331
SIHOTANG K, *see* PANG *et al.*, 193
SILVA M M, *see* NOBRE *et al.*, 359
SIMMONS D A R, ROMANOWSKA ELZBIETA. Structure and biology of *Shigella flexneri* O antigens, 289
SKURRAY R A, *see* LYON *et al.*, 101
SMITH C J, *see* ISMAIL *et al.*, 353
SMYTH C J, MATTHEWS HELEN, HALPENNY M K, BRANDIS H, COLMAN G. Biotyping, serotyping and phage typing of *Streptococcus faecalis* isolated from dental plaque in the human mouth, 45
STEPHEN J, *see* MITCHELL *et al.*, 199, 205, 211

STEWART P R, *see* WILKINSON *et al.*, 119
STEWART-TULL D E S, *see* OLLAR AND STEWART-TULL, 227

TAYLOR-ROBINSON D, BEHNKE J. The prolonged persistence of mycoplasmas in culture, 89
TAYLOR-ROBINSON D, *see* BOUSTOULLER *et al.*, 327
TAYLOR-ROBINSON D, *see* VETERE *et al.*, 219
TSANG PEGGY S, *see* HAMEL *et al.*, 163
TSUBOKURA M, *see* KAWAOKA *et al.*, 349
TURAND A, *see* GELMI *et al.*, 111

VADIVELU JAMUNA, DUNN D T, FEACHEM R G, DRASAR B S, COX N P, HARRISON T J, LLOYD B J. Comparison of five assays for the heat-liable enterotoxin of *Escherichia coli*, 221
VERARDI R. *see* GELMI *et al.*, 111
VETERE A, BORRIELLO S P, FONTAINE E, REED P J, TAYLOR-ROBINSON D. Characterisation of anaerobic curved rods (*Mobiluncus* spp.) isolated from the urogenital tract, 279

WATSON I, *see* POTOMSKI *et al.*, 171
WILKIE K M, *see* LAW *et al.*, 335
WILKINSON D M, ANDREWS S, STEWART P R. Bacteriophages associated with multi-resistant *Staphylococcus aureus* in Australia, 119
WILLIAMS J D, *see* CHEN AND WILLIAMS, 141
WISEMAN G M, *see* ODUMERU *et al.*, 155
WONG P Y, *see* PANG *et al.*, 193
WYATT G M, *see* BRADLEY *et al.*, 29

YAKUBU D E, *see* OLD *et al.*, 247

# The Journal of
# Medical Microbiology

A JOURNAL OF THE PATHOLOGICAL SOCIETY
OF GREAT BRITAIN AND IRELAND

EDITED BY

J. G. COLLEE, B. I. DUERDEN, M. T. PARKER and H. STERN

EDITORIAL BOARD

S. G. B. AMYES
R. R. DAVIES
T. S. J. ELLIOT
C. GEMMELL
J. V. T. GOSTLING
D. GREENWOOD
M. HASTINGS
H. R. INGHAM
P. A. JENKINS
A. E. JEPHCOTT
R. H. LEACH
D. M. MacLAREN
J. P. NICHOLL
(*Statistical editor*)
D. C. OLD
R. PARTON
N. W. PRESTON
T. R. ROGERS
P. W. ROSS
J. R. SAUNDERS
A. C. SCOTT
R. SLACK
G. R. SMITH
M. S. SPROTT
M. SUSSMAN
P. J. WILKINSON
R. J. WILLIAMS

GERMAN SIMS WOODHEAD
Founder of the Journal of Pathology and Bacteriology

VOLUME TWENTY THREE

Churchill Livingstone

EDINBURGH LONDON MELBOURNE AND NEW YORK

1987

*Copyright © 1987 The Pathological Society of Great Britain and Ireland and Longman Group Ltd.*

*All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form, or by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior permission of the copyright owner.*

**Typeset, printed and bound in Great Britain by William Clowes Limited, Beccles and London**

CONTENTS

## Volume 23. No. 1—February


**Opsonic monoclonal antibodies against lipopolysaccharide antigens of *Leptospira interrogans* serovar *hardjo*** 1
*Farrelly, H. E., Adler, B. and Faine, S.*

**Preparation and immunogenicity of a bivalent cell-surface protein-polysaccharide conjugate of *Vibrio cholerae*** 9
*Kabir, S.*

**A model of acute infectious neonatal diarrhoea** 19
*Newsome, P. M., Burgess, M. N., Burgess, Madelaine, R., Coney, K. A., Goddard, M. E. and Morris, J. A.*

**Instability in the faecal flora of a patient suffering from food-related irritable bowel syndrome** 29
*Bradley, Hazel K., Wyatt, G. M., Bayliss, Catherine E. and Hunter, J. O.*

**The typing of *Morganella morgani* by bacteriocin production and sensitivity** 33
*Senior, B. W.*

**Staphylococcal whole-cell polypeptide analysis: evaluation as a taxonomic and typing tool** 41
*Clink, J. and Pennington, T. H.*

**Biotyping, serotyping and phage typing of *Streptococcus faecalis* isolated from dental plaque in the human mouth** 45
*Smyth, C. J., Matthews, Helen, Halpenny, M. K., Brandis, H. and Colman, G.*

**The effect of crude extracts of nine African chewing sticks on oral anaerobes** 55
*Rotimi, V. O. and Mosadomi, H. A.*

**Bacteraemia and seeding of capsulate *Bacteroides* spp. and anaerobic cocci** 61
*Brook, I.*

**Adherence of *Fusobacterium necrophorum* to bovine ruminal cells** 69
*Kanoe, M. and Iwaki, K.*

**Microbial adherence to vulvar epithelial cells** 75
*Bibel, D. J., Aly, R., Lahti, L., Shinefield, H. R. and Maibach, H. I.*

**The response of *Escherichia coli* to ciprofloxacin and norfloxacin** 83
*Elliott, T. S. J., Shelton, A. and Greenwood, D.*

**The prolonged persistence of mycoplasmas in culture** 89
*Taylor-Robinson, D. and Behnke, J.*

**Books received** 93


## Volume 23. No. 2—March


**Western blot analysis of staphylococcal antibodies present in human sera during health and disease** 95
*Bell, J. A., Pennington, T. H. and Petrie, Diane T.*

**Plasmid-mediated resistance to gentamicin in *Staphylococcus aureus*: the involvement of a transposon** 101
*Lyon, B. R., Gillespie, M. T., Byrne, M. E., May, J. W. and Skurray, R. A.*

**Antibiotic resistance and plasmids in *Staphylococcus aureus* from Italian hospitals** 111
*Gelmi, M., Foresti, I., Ravizzola, G., Bonfanti, C., Verardi, R., Caruso, A. and Turana, A.*

**Bacteriophages associated with multiresistant *Staphylococcus aureus* in Australia** 119
*Wilkinson, D. M., Andrews, S. and Stewart, P. R.*

**The susceptibility to lysozyme of β-lactamase-producing and non-producing derivatives of *Staphylococcus aureus* strain 1030** 127
*Millar, M.*

**Extracellular and membrane-bound β-lactamase of *Staphylococcus aureus*: their importance for the expression of penicillin resistance** 133
*Bruns, W. and Keppeler, H.*

**Penicillin-binding proteins in *Streptococcus faecalis* and *S. faecium*** 141
*Chen, H. Y. and Williams, J. D.*

**The effect of antibiotics on the cell morphology of *Legionella pneumophila*** 149
*Chan, E. L., Harris, R. C. and Dalton, H. P.*

**Relationship between lipopolysaccharide composition and virulence of *Haemophilus ducreyi*** 155
*Odumeru, J. A., Wiseman, G. M. and Ronald, A. R.*

**A monoclonal antibody directed against a serotype—specific, outer-membrane protein of *Haemophilus influenzae* type b** 163
*Hamel, Josée, Brodeur, B. R., Larose, Yolande, Tsang, Peggy S., Belmaaza, A. and Montplaisir, S.*

**Purification of cytotoxic enterotoxin of *Aeromonas sobria* by use of monoclonal antibodies** 171
*Potomski, J., Burke, Valerie, Watson, I. and Gracey, M.*

***Aeromonas* cytotonic enterotoxin cross reactive with cholera toxin** 179
*Potomski, J., Burke, Valerie, Robinson, Jennifer, Fumarola, D. and Miragliotta, G.*

**Variations in the virulence, for pregnant guinea pigs, of campylobacters isolated from man** 187
*Coid, C. R., O'Sullivan, A. M. and Doré, C. J.*

**Announcements** 191

**Books Received** 192

**Volume 23. No. 3—May**

**In-vitro and in-vivo studies of a cytotoxin from *Campylobacter jejuni*** 193
*Pang, T., Wong, P. Y., Puthucheary, S. D., Sihotang, K. and Chang, W. K.*

**The effects of *Clostridium difficile* crude toxins and purified toxin A on stripped rabbit ileal mucosa in Ussing chambers** 199
*Mitchell, T. J., Ketley, J. M., Burdon, D. W., Candy, D. C. A. and Stephen, J.*

**The effects of *Clostridium difficile* toxins A and B on membrane integrity and protein synthesis in intestinal cells *in vivo* and *in vitro* and in McCoy cells *in vitro*** 205
*Mitchell, T. J., Ketley, J. M., Burdon, D. W., Candy, D. C. A. and Stephen, J.*

**Biological mode of action of *Clostridium difficile* toxin A: a novel enterotoxin** 211
*Mitchell, T. J., Ketley, J. M., Burdon, D. W., Candy, D. C. A. and Stephen, J.*

**Comparison of five assays for the heat-labile enterotoxin of *Escherichia coli*** 221
*Vadivelu, Jamuna, Dunn, D. T., Feachem, R. G., Drasar, B. S., Cox, N. P., Harrison, T. J. and Lloyd, B. J.*

**Studies on the *Vibrio cholerae* mucinase complex. II. Specific neuraminidase activity measured histochemically in a goblet cell assay** 227
*Ollar, R. A. and Stewart-Tull, D. E. S.*

**Interaction of *Campylobacter pyloridis* with human immune defence mechanisms** 233
*Pruul, H., Lee, P. C., Goodwin, C. S. and McDonald, P. J.*

**Regulation of cell-mediated immunity in mice immunised with *Salmonella enteritidis*** 239
*George, Anna, Nair, Rohini, Rath, S., Ghosh, S. N. and Kamat, R. S.*

**Demonstration by immuno-electronmicroscopy of antigenic heterogeneity among P fimbriae of strains of *Escherichia coli*** 247
*Old, D. C., Yakubu, D. E. and Crichton, Pamela B.*

**A simple statistical approach that represents the frequency distribution of plasmids in clinical isolates of the enterobacteria** 255
*Platt, D. J.*

**Demonstration of spirochaetes in patients with Lyme disease with a modified silver stain** 261
*De Koning, J., Bosma, R. B. and Hoogkamp-Korstanje, J. A. A.*

**Accumulation of a precusor of subunit S1 of pertussis toxin in cell envelopes of *Bordetella pertussis* in response to the membrane perturbant phenethyl alcohol** 269
*Perera, V. Y. and Freer, J. H.*

**Disseminated *Candida* infection syndrome in heroin addicts—dominance of a single *Candida albicans* biotype** 275
*Odds, F. C., Palacio-Hernanz, Amalia, Cuadra, J. and Sanchéz, J.*

**Characterisation of anaerobic curved rods (*Mobiluncus* spp.) isolated from the urogenital tract** 279
*Vetere, A., Borriello, S. P., Fontaine, E., Reed, P. J. and Taylor-Robinson, D.*

**Volume 23. No. 4—June**

OCCASIONAL REVIEW
**Structure and biology of *Shigella flexneri* 0 antigens** 289
*Simmons, D. A. R. and Romanowska, Elzbieta*

**Numerical analysis of electrophoretic protein patterns of *Streptobacillus moniliformis* strains from human, murine and avian infections** 303
*Costas, M. and Owen, R. J.*

**Cell envelope protein profiles of *Acinetobacter calcoaceticus* strains isolated in hospitals** 313
*Dijkshoorn, L., Michel, M. F. and Degener, J. E.*

**Serological relationships between serotype-III *Streptococcus sanguis* and Lancefield group-H Streptococci** 321
*Akada, H., Asakawa, H., Kitamura, K., Okahashi, N., Koga, T. and Hamada, S.*

**Pili on *Gardnerella vaginialis* studied by electronmicroscopy** 327
*Boustouller, Yvonne L., Johnson, A. P. and Taylor-Robinson, D.*

**Phage-induced change of toxigenesis in *Vibrio cholerae*** 331
*Siddiqui, K. A. I. and Bhattacharyya, F. Kathleen*

**Examination of enteropathogenic *Escherichia coli* strains for an adenylcyclase stimulating factor** 335
*Law, D., Wilkie, K. M. and Freeman, R.*

**The mechanism of protection of infant mice from intestinal colonisation with *Campylobacter jejuni*** 339
*Abimiku, Alash'le G. and Dolby, Jean M.*

**Human carriage of *Yersinia* spp.** 345
*Greenwood, Melody and Hooper, W. L.*

**Isolation and use of eight phages for typing *Yersinia enterocolitica* 03** 349
*Kawaoka, Y., Mitani, T., Otsuki, K. and Tsubokura, M.*

**A competitive immunosorbent assay for detection of *Pseudomonas pseudomallei* exotoxin** 353
*Ismail, G., Noor Embi, M., Omar, O., Allen, J. C. and Smith, C. J.*

**The oxidase test in yeasts of medical importance** 359
*Nobre, G. N., Charrua, M. J. and Silva, M. M.*

**Effect of glucan on *Leishmania major* infection in BALB/c mice** 363
*Al Tuwaijri, A. S., Mahmoud, A. A., Al Mofleh, A. and Al Khuwaitir, S. A.*

**Obituary Notice** 367

**Announcements** 370

**Index Subjects** 371

**Index Authors** 376